


<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/656,749	TROTTER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John B Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--  
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/07/2004.
2. ☒ The allowed claim(s) is/are 2-6, 8-13 and 15-26.
3. ☒ The drawings filed on 05 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 2-6, 8-13, and 15-26 are allowed.
2. The following is an examiner's statement of reasons for allowance: The prior art fails to teach or fairly suggest the overall combination including a pulse width modulation circuitry including a pulse width modulation encoder for generating a pulse width modulated stream and another parallel pulse width modulation encoder for generating another pulse width modulated stream; and a mismatch shaper for selectively distributing variations in duty cycle between the duty cycle modulated stream and the another duty cycle modulated stream for odd values of the input stream; and a conversion circuitry for converting the duty cycle modulated stream and the another duty cycle modulated stream into an analog signal, wherein the conversion circuitry including a finite impulse response filter for converting the duty cycle modulated stream into a plurality of filtered data streams; and another finite impulse response filter for converting the another duty cycle modulated stream into another plurality of filtered data streams. Therefore, claims 2-6, 8-13, and 15-26 are presently allowed.

### ***Conclusion***

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on


Application/Control Number: 10/656,749  
Art Unit: 2819

Page 3

Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Nguyen whose telephone number is (571) 271-1808. The examiner can normally be reached on 8AM-4:30 PM M-F.

John B. Nguyen  
August 19, 2004

  
**Michael Tokar**  
Supervisory Patent Examiner  
Technology Center 2800